Unizik Journal of Educational Research, Science and Vocational Studies
(UJERSVOCS) Volume 2 (1); May-August, 2025; https://unilaws.org/ujervs
E-ISSN (Online): 1595-6199 ISSN (Print): 1595-6202

INFLUENCE OF SOCIAL MEDIA USE ON COGNITIVE AND BEHAVIOURAL OUTCOMES OF UNDERGRADUATES IN FEDERAL UNIVERSITY, OYE-EKITI, NIGERIA

Olawole Ayodeji Olorunfemi[1*], Olugbemi Oluwatoyin [2], Olosunde Adesola Feyisayo[3]
Department of Guidance and Counselling, Faculty of Education, Federal University Oye-Ekiti, Nigeria
*Corresponding author's Email address: ayodejiolawole@fuoye.edu.ng

ABSTRACT
This study investigate the Influence of social media use on cognitive and behavioural outcomes of undergraduates in Federal University, Oye-Ekiti, Nigeria. A descriptive research design was used to examine the influence of the attendant variables. Four (4) research questions and hypotheses were raised and analyzed. Four hundred and forty-nine (449) undergraduate students were randomly selected from five faculties in the school. Standardized instruments were administered to the participants. Descriptive statistics and, t-test was used to analyze the data. The study revealed that social media use significantly influences students' attention span; that social media use significantly impacts students' ability to concentrate on academic tasks; that social media use substantially influences students' information retention and that indicating that social media use substantially influences students' quality of sleep. Based on these results it was recommended that Universities managements should implement health and digital literacy initiatives to teach students how to use social media responsibly, focusing on how it affects cognitive abilities and sleep patterns among others.

Keywords: Social Media Use, Attention span, Concentration, Retention, Sleep Quality

Introduction
Social media has overtime permeated every element of our daily life in recent years especially for the undergraduate students. Akpan (2024), social media platforms like Instagram, TikTok, Facebook, X (previously known as Twitter and Snapchat have evolved into important threads for information, entertainment, identity formation and individual self- expression. Concern over the psychological and cognitive effects of widespread social media use is growing, though, as consumption continue to rise. Researchers and educators alike are starting to wonder how higher education students' attention, focus, memory recall and sleep quality will be affected as they mix their academic responsibilities with the delight of digital connectedness.

Undergraduates use social media almost constantly; according to the Global Digital Report 2024, people between the ages of 18 and 24 spend an average of 3.5 to 4 hours a day on social networking sites (We are Social & Meltwater, 2024). The exciting and frequently distracting nature of these sites, especially through short-form content and algorithmically tailored feeds, raises significant concerns about students' capacity to maintain focus and attention in academic settings.

A person's ability to process information block out distractions and maintain concentration is determined by their attention, a fundamental cognitive function (Anderson & Li, 2024). The capacity o focus for prolonged periods of time is essential for learning and performance in an academic setting. Social media sites, on the other hand are made to divide attention, their

incessant alerts, limitless scrolls capabilities and quick content changes encourage digital multitasking and attention switching (Wong et al, 2024).

Chronic exposure to such fragmented experiences may result in increased cognitive fatigue and decreased sustained attention, especially in young adults, according to recent neurocognitive study (Chen & Torres, 2025). Undergraduate students may be more vulnerable to the detrimental consequences of attention fragmentation since they are frequently subjected to academic stress and a fast-paced life style. According to study by Suleiman & Ibekwe (2024, Olawole et al, 2024) students who check their phones a lot while studying reported feeling more mentally exhausted and having trouble focusing. This is particularly troublesome during digital coursework or online learning, when it can be difficult to distinguish between productive and non-productive study time. A key component of learning and academic performance is retention which is the capacity to store and retrieve information over time. The influence of social media on this process is nuanced. Although excessive use has been connected to superficial information processing may offer opportunities for informal leaning and peer- to-peer interaction. Students who regularly consume significant amount of internet content may have trouble with deep cognitive encoding of academic material, according to mounting research (Martins & Alabi, 2024).

Additionally, social media generates predilection for fast paced, visually appealing content which may be at odds with the slower, more methodical speed needed for critical thinking or learning (Yusof & Kareem, 2025). Lower academic retention may come from ensuing mismatch which can hinder the brain's capacity to consolidate memories. According to research by Okafor and Zhang (2024), students who spent more time on social media each day performed noticeably worse on exams that measure long-term memory and understanding of subject matter.

Sleep is essential for cognitive processes like mental clarity, emotional control and memory consolidation. Several research research have shown that students 'sleep quality is negatively impacted by late night social media use (Bassey & Tran, 2024). By inhibiting the generation of melatonin, exposure to blue light from screens can interfere with circadian rhythms, causing delayed sleep onset and ineffective sleep (Mukherjee et al, 2024). Social media's emotionally charged material which include everything from news to personal updates and cause physiological disturbances as well as increased cognitive arousal which makes it harder for students to relax.

Reduced attention and retention are closely related to sleep deprivation and poor sleep quality. Because of this association, using social media excessively can have an indirect negative impact on academic performance by causing sleep problems. For example, students who used social media for more than two hours after 9pm reported significantly lower sleep quality scores and worse academic performance according to a cross-sectional study conducted by Harris and Ojo (2025) with over 600 undergraduate students.

Even though research on the detrimental effect of social media use has increased, less is known about its complex effects, particularly how it concurrently impacts undergraduates 'attention, focus, retention and sleep quality. The majority of current research focuses on just one or two of these factors. Furthermore, results from past research may not accurately reflect current

usage trends due to rapid evolution of social media's nature and content, particularly with the advent of Al- generated content and short form video platforms like TikTok (Ahmed & Dube, 2024). Therefore, it is imperative and critical to carryout an investigation into the cumulative and interrelated effects of social media on students' academic performance and well-being. By offering empirical insights into how the type, timing and duration of social media use affects undergraduate students' cognitive and behavioural outcomes, this study aims to close the gap. The results should help develop digital literacy initiatives, sound intervention and reformed policy recommendations for sterling digital habits of university populations.

Objectives

The study investigates the Influence of social media use on cognitive and behavioural outcomes of undergraduates in Federal University, Oye-Ekiti, Nigeria.

Research questions

1. Is there a significant influence of social media use on undergraduates' attention span?
2. Is there a significant influence of social media use on undergraduates' ability to concentrate on academic tasks?
3. Is there a significant influence of social media on undergraduates 'information retention?
4. Is there a significant influence of social media on undergraduates 'sleep quality

Research hypotheses

1. Undergraduates' social media use does not significantly influence their attention span.
2. There is no significant influence of social media use on students' ability to concentrate on academic tasks.
3. Social media use does not significantly influence undergraduates' information retention.
4. Social media use does not significantly influence undergraduates' quality of sleep

Methodology

Research design: This study adopted a descriptive research design in which a questionnaire was used to collect data from the respondents. This method seeks to establish if there is a significant influence among variables by observation, over which the researcher has no control over the variables of interest and therefore cannot manipulate them. It is expected that the sample drawn would be generalised and inferences will be made on the whole population of the study.

Population: The population for this study comprises all undergraduates in Federal University Oye-Ekiti (FUOYE).

Sample and sampling techniques: A simple random sampling technique was used to select five (5) faculties in the population of the study. One hundred students were randomly selected from each faculty. Four hundred and ninety-nine (449) undergraduates were used for the study because that is the number of questionnaires that was received back, giving the attrition rate of 10.2%.

Participants: The sample for this study consists of four hundred and forty-nine (449) students randomly selected from Federal University, Oye -Ekiti in Ekiti State, Nigeria. The biodata information summary from the participants revealed that 190 (42.0%) were male and 259 (58.0%) were female. 115, representing 26%, were in 100 level, 156, representing 35% were in 200level, 95 representing 21% were in 300level while 83 representing 18% were 400 level.

In relation to religion, 247 respondents (85.7%) were Christians, and 166 respondents (37%) were Muslims, while 36 respondents (8%) practiced African traditional religion. A further breakdown showed that 62 (14%), 223 (50%),126 (28%) and 38 (8%) of the respondents fell under the age brackets of under 18, 18-21, 22-25 and above 25 years, respectively.

Instrumentation: This study used a structured self-report questionnaire for data collection. The instrument was designed to assess the frequency of social media use, its influence on undergraduates' attention, concentration, retention and sleep quality. The instrument has five (5) sections. Demographic information: This section assesses the respondents age, gender, level of study and religion. Social media usage scale (SMUS). This was adapted from Social Media Engagement questionnaire by Przybylski et al (2017). This part measured the frequency, duration and time of use. Attention and concentration scale: This was adapted from the Cognitive Failures Questionnaires (Broadbent et al, 1982). And it adapted to suit the academic context to measure difficulties in maintaining focus and concentration during lectures. Retention was measured using self-reported recall tasks and items that are related to academic memory. This was adapted from study skills self-assessment inventory (Wesley college,2020). The items evaluated the inability of students to remember recently studied materials.

Sleep quality scale: This part adapted the Pittsburgh sleep quality index (PSQI), a standardized and validated tool to assess sleep duration, latency disturbances. Each item was rated on a 5-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). The instrument was piloted to ensure reliability and internal consistency (Cronbach's alpha< 0.70).

Data Analysis

Data collected were analysed using descriptive statistics and t-test at 0.05 level of significance.

RESULTS

Table 1: Gender Distribution of Selected Respondents

Gender	No of Respondents	Percentage
Male	190	42
Female	259	58
Grand Total	449	100

Analysis of Table 1 shows that 42% of the respondents were female and 58% were male students.

Table 2: Age Range Distribution of Selected Respondents

Age Range	No of Respondents	Percentage
Below 18 years	62	14
18-21 years	223	50
22-25 years	126	28
25 years and Above	38	8
Grand Total	449	100

Table 2 data show that 50% of respondents were aged 18–21 years, 28% were 22–25 years, and 14% were under 18 years, while the remaining 8% were 25 years or older.

Table 3: Level of Education Among Surveyed Respondents

Level	No of Respondents	Percentage
100	115	26

200	156	35
300	95	21
400	83	18
Grand Total	449	100

Data from Table 3 reveal that respondents are distributed across academic years as follows: 35% in year two, 26% in year one, 21% in year three, and 18% in year four.

Table 4: Religious Composition of Surveyed Respondents

Religion	No of Respondents	Percentage
Christianity	247	55
Islam	166	37
Traditionalist	36	8
Grand Total	449	100

Table 4 data indicate that 55% of respondents identified as Christian, 37% as Muslim, and 8% as adherents of Traditionalist beliefs.

Answers to Research Questions and hypotheses

Research hypothesis 1: Students' social media use does not significantly influence their attention span.

Table 5: t-test Analysis on Social Media Use and Attention Span

Variables	N	Mean	St. Dev.	df	t-tab	t-value	Sig.
Social Media Use	450	10.74	2.78	448	1.96	-7.995	0.000
Attention Span	450	11.82	2.92				

Table 5 reveals a mean social media use score of 10.74 and a mean attention span score of 11.82. A calculated t-value of -7.995 was obtained, indicating the effect of social media use on attention span. This t-value is statistically significant (critical $t = \pm 1.96$, $\alpha = 0.05$, $df = 448$), leading to the rejection of the null hypothesis. The study concludes that social media use significantly influences students' attention span.

Research hypothesis 2: There is no significant influence of social media use on students' ability to concentrate on academic tasks.

Table 6: t-test analysis on social media use and ability to concentrate on academic task

Variables	N	Mean	St. Dev.	df	t-tab	t-value	Sig.
Social Media Use	450	10.74	2.78	448	1.96	-11.987	0.000
Concentration Ability	450	12.26	3.09				

Table 6 analysis indicates mean scores of 10.74 for social media use and 12.26 for ability to concentrate on academic tasks. The statistically significant t-value of -11.987 (critical $t = \pm 1.96$, $df = 448$, $p < 0.05$) leads to the rejection of the null hypothesis, demonstrating that social media use significantly impacts students' ability to concentrate on academic tasks.

Research hypothesis 3: Social media use does not significantly influence students' information retention.

Table 7: t-test Analysis on Social Media Use and Information Retention

Variables	N	Mean	St. Dev.	df	t-tab	t-value	Sig.
Social Media Use	450	10.74	2.78	448	1.96	-30.008	0.000
Information Retention	450	15.63	3.71				

Analysis of Table 7 reveals a mean social media use score of 10.74 and a mean information retention score of 15.63. The significant t-value (-30.008, critical t = 1.96, df = 448, $p < 0.05$) indicates that social media use substantially influences students' information retention, leading to the rejection of the null hypothesis.

Research hypothesis 4: Social media use does not significantly influence with quality of sleep among students.

Table 8: t-test Analysis on Social Media Use and Quality of Sleep

Variables	N	Mean	St. Dev.	df	t-tab	t-value	Sig.
Social Media Use	450	10.74	2.78	448	1.96	-9.401	0.000
Quality of Sleep	450	12.41	3.66				

Table 8 analysis shows mean scores of 10.74 (social media use) and 12.41 (information retention). The statistically significant t-value of -9.401 (critical t = ±1.96, df = 448, $p < 0.05$) rejects the null hypothesis, indicating that social media use substantially influences students' quality of sleep.

Discussion

This study investigated the Influence of social media use on cognitive and behavioural outcomes among undergraduates in Federal University, Oye-Ekiti, Nigeria. The result aligns with Al-Dubai et al, 2024. This study found a statistically significant negative correlation between the frequency of social media use and students' attention spans during academic tasks. The authors noted that frequent switching between apps and exposure to fast-paced content reduced the ability to focus on sustained cognitive activities. This result also draws inferences from Lee, J. & Akpan, R. (2024). The assert that students who frequently multitask between social media platforms and academic tasks exhibit significantly lower sustained attention scores compared to low-frequency users. This study also revealed that social media use significantly impacts students' ability to concentrate on academic tasks. This study supports the findings of Ohanaka et al, (2022) who found that excessive social media use among education undergraduates significantly impairs their study concentration. Students reported spending substantial study time on social media, leading to decreased focus and potential academic setbacks. Similarly, the study resonates the findings of Chiossi et al, 2023 that demonstrated that engaging with short-form videos, like those on TikTok, significantly impairs users' ability to maintain attention and recall intentions, highlighting the detrimental effect on concentration. Also, the study discovered that social media use substantially influences students' information retention. This discovery agrees with Sun & Chao, 2024, who established that excessive social media use leads to attention problems, which in turn negatively affect academic performance. The study findings also restate the result of the study of Das & Mishra, 2024, who showed that short, fast-paced videos on platforms like Instagram and TikTok impact attentional processes, including distraction and cognitive load. The study further revealed that social media use substantially influences students' quality of sleep. This supports the findings of Patel (2021) who explored the relationship between sleep quality and social media usage among college students. The results suggested that higher social media usage was associated

with poorer sleep quality. This also validates Kumar and Sharma (2023) when they assessed the impact of social media usage on sleep quality among undergraduate students. The study concluded that increased social media usage negatively affected sleep quality.

Conclusion

This study shows that there is a substantial correlation between undergraduates' usage of social media and important cognitive and behavioural abilities, including attention span, focus, memory, and sleep quality. The results show that students' capacity to concentrate, retain academic material, and maintain healthy sleep patterns is adversely affected by excessive or uncontrolled social media use, which may impede both academic achievement and general well-being. Students, educators and other stakeholders must collaborate to promote healthier social media in an era where digital connectedness is both essential and sometimes distracting.

Recommendation

Based on the findings, the following recommendations were suggested:

Universities managements should implement health and digital literacy initiatives to teach students how to use social media responsibly, focusing on how it affects cognitive abilities and sleep patterns.

To enhance focus, attentiveness, and sleep quality, undergraduates should be assisted to establish limits on their use of social media, especially when studying and right before bed.

To assist students in improving their retention and concentration, educational institutions can include focus-enhancing technologies (such as digital detox apps, mindfulness, and Pomodoro techniques) into academic counselling services.

To encourage self-regulation, parents and teachers should have conversations with students on the long-term cognitive and psychological impacts of excessive social media use.

Universities' administrators should create guidelines that encourage responsible technology usage on campus, including study areas free of Wi-Fi or deactivate apps when classes are on.

REFERENCES

Ahmed, R., & Dube, M. (2024). AI and attention economy: Rethinking youth engagement on social media. *Journal of Digital Behaviour Studies, 12(1), 33–48*.

Al-Dubai, S. A. R., Ganasegeran, K., Alshagga, M. A., & Al-Abed, A. A. (2024). The association between excessive social media use and reduced attention span among university students: A cross-sectional analysis. *Journal of Digital Behaviour and Education, 9(1), 22–35*.

Anderson, T., & Li, K. (2024). Cognitive overload and fragmented attention: Implications for digital learners. *International Journal of Educational Neuroscience, 8(2), 45–62*.

Bassey, E., & Tran, L. (2024). Late-night scrolling and sleep disruption among undergraduates. *Sleep & Behavior Research Journal, 6(3), 12–25.*

Chen, H., & Torres, M. (2025). Short-form content and sustained attention: A neurocognitive perspective. *Journal of Cognitive Technology, 9(1), 58–72*.

Chiossi, F., Haliburton, L., Ou, C., Butz, A., & Schmidt, A. (2023). Exploring the influence of short reels on attention span and academic performance of undergraduate students. ERIC.

https://files.eric.ed.gov/fulltext/EJ1454296.pdf

Das, A., & Mishra, H. (2024). The effect of reels on attention among young and middle-aged adults. *The International Journal of Indian Psychology, 12(3), 245–256.*

Harris, A., & Ojo, S. (2025). Digital habits, sleep quality, and academic performance in Nigerian university students. *African Journal of Psychology and Learning, 4(2), 101–115*.

Kumar, R., & Sharma, S. (2023). Impact of social media usage on sleep quality among undergraduate students. *International Journal of Novel Research and Development, 8(11), 210–216.*

Lee, Y., & Akpan, E. (2024). Social media and undergraduate life: Usage patterns and implications. *Higher Education and Society Review, 15(1), 90–105.*

Martins, G., & Alabi, T. (2024). Memory retention in the digital age: The impact of screen time on long-term learning. *Journal of Learning and Technology, 11(4), 76–89.*

Mukherjee, N., Chen, P., & Grant, E. (2024). Circadian rhythms and screen-based media use: A review of college student patterns. *Chronobiology in Health, 7(2), 47–60.*

Ohanaka, C. S., Mgbam, F. A., & Ohiri, V. C. (2022). Influence of social media on study concentration of education undergraduates: The case of Imo State University, Owerri. *AE-FUNAI Journal of Education, 2(1).*

Okafor, J., & Zhang, H. (2024). Screen time and memory consolidation in adolescents and young adults. *Cognitive Health Journal, 10(3), 23–39.*

Olawole, A.O., Olugbemi, O & Ogunyemi, B.E. (2024**).** Associating Social Media Engagement and Inappropriate Sexual Behavior among Undergraduate student in Federal University, Oye-Ekiti, Nigeria. Fuoye Journal of Educational Management, 1(2).

Patel, N. M. (2021). Sleep quality and social media usage among college students. *International Journal of Indian Psychology, 9(4), 941–948.*

Perry, M., & Idris, A. (2025). Multitasking and cognitive fatigue: Effects of simultaneous media use in study environments. *Journal of Applied Psychology in Education, 13(1), 66–82.*

Sharma, T. K. (2019). Effect of social media on memory among teenagers. *The International Journal of Indian Psychology, 7(1), 25–32.*

Suleiman, F., & Ibekwe, D. (2024). Smartphone dependence and concentration challenges among Nigerian undergraduates. *West African Journal of Education and Psychology, 9(2), 59–71.*

Sun, W., & Chao, M. (2024). Exploring the influence of excessive social media use on academic performance through media multitasking and attention problems. *Education and Information Technologies, 29, 123–137.*

Wang, Q., & Lee, D. (2017). Externalizing the autobiographical self: Sharing personal memories online facilitated memory retention. *Memory, 25(7), 912–921.*

We Are Social & Meltwater. (2024). *Digital 2024: Global Overview Report*. https://wearesocial.com

Yusof, N., & Kareem, A. (2025). Visual literacy vs. academic reading: Cognitive consequences of social media. *International Journal of Educational Psychology, 14(1), 29–43.*